

U.S. Serial No.: 09/837,526

**REMARKS**

Applicants thank the Examiner for accepting the drawing submitted in the response filed on March 15, 2005. However, the Office action requests submission of an annotated drawing sheet to indicate the changes made. An annotated drawing sheet is attached with this response. Applicants note that Figure 3 was amended to avoid using the same reference number on different components. More particularly, the block labeled 220 in Figure 3 was improperly labeled Memory in Figure 3, this was corrected to the label Ethernet. The correction agrees with the description on lines 18-20 of page 8, an exemplary physical layer being an Ethernet (see pg. 7, lines 21-23).

**I. Introduction**

Claims 1, 3 and 5-10 are pending in the above application.

Claims 9-10 stand rejected under 35 U.S.C. § 102.

Claims 1, 3 and 5-8 stand rejected under 35 U.S.C. § 103.

Claims 1, 9 and 10 are independent claims.

**II. Rejections Under Prior Art**

A. Claims 9-10 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Vogel et al. (U.S. Pat. 6,804,262).

Anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed in a prior art reference as arranged in the claim. See, *Akzo N.V. v. U.S. Int'l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986); and *Connell v. Sears, Roebuck & Co.*, 220 USPQ 193, 198 (Fed. Cir. 1983).

U.S. Serial No.: 09/837,526

As explained in Applicant's previous response submitted on March 15, 2005, herein incorporated, contrary to the Examiner's remarks to Applicant's arguments, Vogel does not disclose or suggest each and every limitation of any of the claims of the above application. The Examiner asserts that Vogel performs step 310 (measure power  $P_{full}$ ) prior to steps 300 and 304, stating "upon  $P_{full}$  not being below a second power threshold power level performing a relatively finer power spectrum scan on the power containing region of the downstream signal to generate a constructed channel response of the power containing region" (Office action, pg 2, ¶ 4). The Examiner is mistaken. Vogel does not disclose to identify a power containing region at step 310, and then scan such a region in steps 300. The operation of Vogel is clearly expressed within Vogel itself. The wider bandwidth of Vogel is merely used to determine whether or not channels found by the narrow bandwidth filter are active. Fig. 7, steps 310, 312; col. 15: 5-23. Vogel explains that if the power is over the second threshold in step 312, the measurement process for identified frequencies associated with P1 and P2 is simply repeated, e.g. "if, however,  $P_{full}$  is above this second threshold level, then cable modem 22 preferably returns to step 300 to repeat the measurement process for the given channel." Vogel, col. 15: 18-21, emphasis added. Vogel does not suggest to use the wideband scan to direct the area of focus for the narrowband scan, as apparently alleged by the Office action.

Moreover, the Office action even appears to contradict itself and actually acknowledge that Vogel does not perform a finer power spectrum scan on power containing regions identified in a course scan, as recited by claim 10. Particularly, in now rejecting claim 1, the Office action acknowledges "Vogel differs from the claimed invention in that Vogel does not necessarily scan the downstream signal with a first

U.S. Serial No.: 09/837,526

scanning bandwidth.” Office action, pg. 5, ¶ 12. As explained above, Vogel does not locate channels by identifying power containing regions with a course scan and then scanning the identified power containing regions with a second scan. The Examiner is respectfully reminded that each and every element of a claim, as arranged in the claim, must be disclosed by a reference for anticipation. The Examiner is not at liberty to pick and choose elements, or the arrangement of element, e.g. the order of the steps, in order to reject a claim.

Regarding claim 10, the Office action asserts that “a Fourier analysis has been interpreted to mean characterizing a signal based on power at different frequencies.” Office action, pg. 3, ¶ 5. However, the term “Fourier analysis” is mathematical term which is well understood to those of skill in the art. The Examiner is not at liberty to redefine accepted mathematical operations in order to be more convenient to reject a claim, i.e. use of a well established term inconsistent with its ordinary meaning in the art is clearly not a reasonable interpretation of the claim. See MPEP 2111 (“the broadest reasonable interpretation of the claim must also be consistent with the interpretation that those skilled in the art would reach, citing *In re Cortright*, 165 F.3d 1353, 1359 (Fed. Cir. 1999). Simply put, Vogel does not disclose performing a Fourier analysis, and contrary to the Examiner’s “interpretation”.

B. Claims 1, 3 and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Vogel in view of Bailey (U.S. Pat. 4,301,454).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion,

U.S. Serial No.: 09/837,526

or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *Ecolochem Inc. v. Southern California Edison Co.*, 227 F.3d 1361, 56 U.S.P.Q.2d (BNA) 1065 (Fed. Cir. 2000); *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2D (BNA) 1614, 1617 (Fed. Cir. 1999); *In re Jones*, 958 F.2d 347, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992); and *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). See also MPEP 2143.01.

Neither Vogel nor Bailey taken alone or in combination, disclose or suggest a method for locating a desired channel in a downstream signal which includes scanning the downstream signal at a first scanning bandwidth in a power spectrum scan to identify power containing regions in the downstream signal; scanning the identified power containing regions in the downstream signal at a second scanning bandwidth with a spectrum scan; and identifying potential desired channels based on the spectrum scan and generating a constructed channel response, as recited by amended claim 1. Vogel does not disclose such as discussed above in Applicant's response filed on March 15, 2005, herein incorporated. Despite apparent arguments to the contrary, the Office action appears to agree that Vogel does not disclose to locate channels by identifying power containing regions at a first scanning bandwidth and then scanning the identified power containing regions with at a second scanning bandwidth. Office action, pg 5, ¶ 12.

The Office action now has apparently concluded that "searching for a channel in a downstream signal by first scanning the signal with a wide scanning bandwidth and scanning identified power containing regions with a narrower scanning bandwidth is notoriously well known in the communications arts as taught by Bailey as prior art to this invention (See Col. 1 lines 14-19)." The Office action's reliance on Bailey, which

U.S. Serial No.: 09/837,526

apparently relies on one sentence in the background of Bailey is misplaced. Bailey simply suggests to search for a signal with a wideband receiver and, once having detected a signal, to tune to that signal with a narrow band receiver, i.e. "one way conventional radar intercept receiving systems have tried to eliminate this problem is to search for the unknown signal with a less sensitive wide band receiver, and, once having detected a signal, tune a narrow band receiver to the detected signal" (Bailey, col. 1: 14-19). Bailey is merely discussing "tuning" a receiver to a particular signal, e.g. "tune a narrow band receiver to the detected signal." There is no mention of power spectrum scans at all, let alone identifying power containing regions with a first scanning bandwidth and then scanning the identified power containing regions at a second scanning bandwidth with a spectrum scan. Notably, a modem of the present invention may use a demodulator and a QAM lock to tune to a signal, as does Vogel (col. 15: 50 through col. 16: 3). In short, Bailey does not support the Office action's allegation.

Moreover, the combination of Bailey with Vogel alters the fundamental operation of Vogel, eliminating Vogel's own desired advantages. Particularly, Vogel extols its approach as "much more efficient than other approaches ... because instead of demodulating a large number of channels, most of which are likely to be analog ... the cable modem simply takes power measurements to pinpoint the channels that are likely to carry useable digital data." Vogel, col. 16: 48-55, emphasis added. The Office action's modification of Vogel suggests to reintroduce the requirement to demodulate a large number of channels (i.e. to tune to a large number of channels). This modification clearly changes the principle operation of Vogel and even does so in a way that

U.S. Serial No.: 09/837,526

contradicts the very advantages Vogel hopes to achieve. Such modification is clearly impermissible. See MPEP 2143.01, sixth heading.

The combination is based on an alleged difficulty in tuning "only a narrow scanning bandwidth." (Office action, pg. 5, ¶ 12)) This "problem" is not shown to exist in either Vogel or Bailey, and at best is illogical. Indeed, a narrow bandwidth is exactly what both Vogel and Bailey disclose to tune to. Clearly, the suggested combination has no reasonable expectation of success. See MPEP 2143.02.

Finally, both Vogel and Bailey teach away from the suggested combination. Vogel extols the advantages of using "pinpoint" power measurements as discussed above. Bailey explains that using a wideband tuner before a narrow band tuner results in slow tuning which does not work well with a signal with a low S/N ratio. Bailey, col. 1: 19-24. Hence, Bailey suggests to use a plurality of narrowband filters with a voting logic to select to appropriate signal. Bailey, Figs. 1-7. A probative inquiry in determining obviousness under 35 USC § 103(a) as to the present invention is whether the inventors achieved the invention by doing what those skilled in the art suggested should not be done. See, *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986). "The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." See *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966). A reference teaches away if it would discourage the art worker from attempting the substitution undertaken by the present inventors. *Gillette Co. v. S.C. Johnson & Son, Inc.*, 919 F.2d 720, 724-25, 16 USPQ2d 1923 (Fed. Cir. 1990). A reference teaches away

U.S. Serial No.: 09/837,526

if it suggest the combination would produce a "seemingly inoperative device." *In re Sponnoble*, 405 F.2d 578, 160 USPQ 237, 244 (CCPA 1969). Accordingly, the suggested combination is improper and should be withdrawn.

C. Claims 5-6 stand rejected under 35 U.S.C. § 103 as being unpatentable over Vogel in view of Bailey in view of Borrás (U.S. Pat. 5,365,207).

Neither Vogel, Bailey nor Borrás disclose all of the limitations of claims 5-6, which depend on claim 1 and incorporate all of the limitations thereof. Neither Vogel nor Bailey disclose all of the limitations of claim 1, as discussed above, and the combination of Bailey with Vogel is improper. Borrás also does not disclose such, and does not cure the deficiencies of the combination. Borrás merely discloses a Multi-Bandwidth SAW filter. Borrás does not cure the deficiencies of Vogel with regard to at least amended claim 1, upon which claim 7 depends and incorporates all of the limitations thereof.

Accordingly, as neither Vogel, Bailey nor Borrás, taken alone or in combination, disclose or suggest all of the limitation of claim 7/1, the combination of Vogel, Bailey and Borrás does not render claim 7 unpatentable.

D. Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Vogel in view of Bailey in view of Dowling (2001/0055328).

Neither Vogel, Bailey nor Dowling disclose all of the limitations of claim 7, which depends on claim 1 and incorporates all of the limitations thereof. Neither Vogel nor Bailey disclose all of the limitations of claim 1, as discussed above, and the combination of Bailey with Vogel is improper. Dowling also does not disclose such, and

U.S. Serial No.: 09/837,526

does not cure the deficiencies of the combination. Dowling discloses to use an FFT on sample channel values for a roaming mobile station 10 to allow the roaming unit to determine if a particular obtained channel is suitable. The Office action relies on Dowling for its use of an FFT, Dowling does not cure the deficiencies of Vogel with regard to at least amended claim 1, upon which claim 7 depends and incorporates all of the limitations thereof.

Accordingly, as neither Vogel, Bailey nor Dowling, taken alone or in combination, disclose or suggest all of the limitation of claim 7/1, the combination of Vogel, Bailey and Dowling does not render claim 7 unpatentable.

### III. Conclusion

Having fully responded to the Office action, the application is believed to be in condition for allowance. Should any issues arise that prevent early allowance of the above application, the examiner is invited contact the undersigned to resolve such issues.

To the extent an extension of time is needed for consideration of this response, Applicant hereby request such extension and, the Commissioner is hereby authorized to charge deposit account number 502117 for any fees associated therewith.

Date: 9/26/05

Respectfully submitted,

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